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PATENT

A¹
(cont.)

acquiring attenuation data from a plurality of staggered half detector segments of the detector array, wherein said staggered half detector segments separated by empty space therebetween; and

reconstructing an image including the patient's organ using the acquired attenuation data.

A²

3. (once amended) A radiation detector for an imaging system, said radiation detector having a centerline and comprising a plurality of staggered half detector segments abutted in regions about said centerline and separated from one another by empty space, said staggered half detector segments each comprising a plurality of detector modules.

A³

12. (once amended) A computed tomographic (CT) imaging system for imaging an organ of a patient, said CT system comprising:

a rotating gantry having an axis of rotation (z-axis);

a radiation source configured to rotate with the rotating gantry; and

a multislice detector array configured to rotate with the rotating gantry and configured to acquire attenuation data from a patient between the radiation source and the detector, said detector array comprising a plurality of staggered half-detector segments separated from one another by empty space and configured to provide attenuation data having a relatively higher spatial resolution near a centerline of said detector array and a relatively lower spatial resolution distal to said centerline,

a data acquisition system configured to receive attenuation data from the detector, including the relatively lower spatial attenuation data and the relatively higher spatial resolution attenuation data, and